

REMARKS

Claims 1, 3 and 9 were rejected under 35 U.S.C. §102(b) as being anticipated by Fujii (US 5,663,628). Claims 1, 2, 5, 6, 11 and 12 were rejected under 35 U.S.C. §102(b) as being anticipated by Yoshikawa et al. (US 6,317,697). Claims 4 and 10 were rejected under 35 U.S. §103(a) as being unpatentable over Fujii in view of Seri et al. (US 5,994,877). Claims 7, 8 and 13 to 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fujii and Yoshikawa et al. in view of Kinoshita (US 5,703,469). Claims 16, 17, 19 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fujii and Yoshikawa et al. in view of Kinoshita.

Reconsideration of the application based on the following is respectfully requested.

Rejections under 35 U.S.C. §102(b) based on Fujii

Claims 1, 3 and 9 were rejected under 35 U.S.C. §102(b) as being anticipated by Fujii (US 5,663,628).

Fujii shows a battery system and a curve of a number of cycles plotted against a depth of discharge.

Claim 1 recites: “A method for determining a deterioration of a battery, comprising:  
measuring respective numbers of charge and discharge cycles at a plurality of depths of discharge of the battery;

determining a respective characteristic deterioration value for at least some of the charge and discharge cycles at each of the plurality of depths of discharge using a deterioration curve characteristic of a type of the battery; and

summing the determined characteristic deterioration values so as to obtain the deterioration of the battery.”

The previous Office Action arguments are incorporated herein.

The Office Action makes the assertion that “summing the determined characteristic deterioration values” includes summing one value. This is wrong. Summing one value is not summing values, and the Office Action does not address the limitation of “summing . . . values”.

Fuji does not show such summing. Also, “summed up” in some generic “summary” is not “summing . . . values”, which clearly means adding in the present application.

Withdrawal to the rejection to claim 1 and its dependent claims 3 and 9 under 35 U.S.C. §102(b) as being anticipated by Fujii (US 5,663,628) thus is respectfully requested.

With further respect to claim 3, claim 3 recites the method as recited in claim 1 wherein the deterioration curve is a continuous function defining a dependence of each characteristic deterioration value on the depth of the respective charge or discharge for the battery type. The curve in Fig. 6 of Fujii cited in the Office action is not a deterioration curve defining a dependence “of each characteristic value” as claimed, but rather cycle/depth curve. See Fig. 2 of the present application showing a deterioration curve. The deterioration curve limitation of Claim 9 is also not shown in Fujii.

Rejections under 35 U.S.C. §102(b) based on Yoshikawa et al.

Claims 1, 2, 5, 6, 11 and 12 were rejected under 35 U.S.C. §102(b) as being anticipated by Yoshikawa et al. (US 6,317,697).

Yoshikawa shows a battery life determination apparatus.

Claim 1 recites: “A method for determining a deterioration of a battery, comprising: measuring respective numbers of charge and discharge cycles at a plurality of depths of discharge of the battery;

determining a respective characteristic deterioration value for at least some of the charge and discharge cycles at each of the plurality of depths of discharge using a deterioration curve characteristic of a type of the battery; and

summing the determined characteristic deterioration values so as to obtain the deterioration of the battery.”

The previous Office Action arguments are incorporated herein.

Yoshikawa discusses measured discharge voltage drop amounts. No “numbers of charge and discharge cycles” as claimed are measured not have any been asserted.

Withdrawal of the rejection to claim 1 and its dependent claims 2, 5, 6, 11 and 12 under 35 U.S.C. §102(b) as being anticipated by Yoshikawa et al. (US 6,317,697) thus is respectfully requested.

With further respect to claim 2, claim 2 recites: "The method as recited in claim 1 wherein each respective charge and discharge cycle is a respective partial cycle, the measuring being performed so as to measure the respective partial cycle separately." It is respectfully submitted that neither Fig. 6 nor col. 18, lines 56 to 64 of Yoshikawa, cited in the Office Action on page 3, teach or disclose "wherein each respective charge and discharge cycle is a respective partial cycle" or "the measuring being performed so as to measure the respective partial cycle separately" as claimed. Rather, Fig. 6 of Yoshikawa shows a discharge voltage drop amount and does not show a respective charge and discharge cycle at all. Moreover, col. 18, lines 56 to 64 of Yoshikawa discuss initial discharge of a battery and does not discuss a respective charge and discharge cycle at all either.

Rejections under 35 U.S.C. §103(a)

Claims 4 and 10 were rejected under 35 U.S. §103(a) as being unpatentable over Fujii in view of Seri et al. (US 5,994,877). Claims 7, 8 and 13 to 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fujii as applied to claims 1, 3 and 9 and Yoshikawa et al. as applied to claims 2, 5, 6, 11 and 12 above in view of Kinoshita (US 5,703,469). Claims 16, 17, 19 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fujii as applied to claims 1, 3 and 9 and Yoshikawa et al. as applied to claims 1, 2, 5, 6, 11 and 12 above in view of Kinoshita.

In view of the above comments with respect to Fujii and Yoshikawa et al., withdrawal of the rejections to claims 4, 7, 8, 10, 13 to 20 under 35 U.S.C. §103(a) thus is respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,

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